

REMARKS

Please reconsider the present application in view of the following remarks.

Applicants thank the Examiner for carefully considering the present application. By way of this response, no claim is amended, canceled, or added. Claims 1-28 are pending upon entry of this response.

Response to Claim Objections

The Examiner objected to claims 1, 18, and 25 because the phrase “the query result” in the locating step allegedly should be “the merged query result”. Applicants respectfully submit that the query result recited in the locating step is “the query result *associated with the identified search query*”, and not the merged query result associated with a plurality of search queries. Support for the above-cited claim language is found in the specification as filed at, for example, paragraph 103. Accordingly, Applicants submit that claims 1, 18, and 25 are proper and request withdrawal of the claim objections.

The Examiner also objected to claim 18 for allegedly not positively reciting a solution to a practical application. Applicants submit that claim 18 properly recites a computer program product having a computer-readable storage medium having executable computer program instructions tangibly embodied thereon for ranking information. As recognized in MPEP 2106.01, “a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory.” Therefore, Applicants submit that there is no basis for the Examiner’s objection and request that it be withdrawn.

Response to Rejection Under 35 USC 102(e) in View of Barrett

Claims 1-6, 8-15, 18-20, and 22-28 stand rejected under 35 USC § 102(c) as allegedly being anticipated by U.S. Patent Application 2003/0135490 by Barrett et al. ("Barrett").

This rejection is traversed.

Independent claim 1 recites:

A computer-implemented method for ranking information, comprising:
receiving a plurality of query results of a plurality of search queries;
merging the plurality of query results into a merged query result, the merged query result being associated with the plurality of search queries;
determining a first ranking sequence of the merged query result
presenting the merged query result to a user according to the first ranking sequence;
identifying an input signal from the user indicating an interest in a first piece of information in the merged query result;
identifying a search query from the plurality of search queries associated with the merged query result, the identified search query being associated with a query result including the first piece of information, the query result from among the plurality of query results;
adjusting a query factor associated with the identified search query responsive to the input signal;
locating a second piece of information in the query result associated with the identified search query;
determining a score for the second piece of information based at least in part on the query factor associated with the identified search query;
determining a second ranking sequence of the merged query result based at least in part on the score; and
presenting the merged query result to the user according to the second ranking sequence.

Independent claim 1 recites a method for ranking information. The method merges a plurality of query results of a plurality of search queries into a merged query result, and presents the merged query result according to a first ranking sequence. The method

identifies a user input signal indicating an interest in a first piece of information in the merged query result, and identifies a search query associated with the first piece of information. The method adjusts a query factor associated with the identified search query, and determines a score for a second piece of information in the query result of the identified query. The method determines a second ranking sequence of the merged query result based at least in part on the score, and presents the merged query result according to the second ranking sequence. This method is useful, for example, in reranking query results based on user responses to the query results.

Barrett discloses a method for determining an enhanced popularity score (EPS) for a given piece of information and a given query. See Barrett, e.g., paragraph [0033] and paragraph [0043], lines 10-12. The EPS is used to determine a score for the given piece of information in a query result of the given query (or similar queries). See Barrett, e.g., paragraph [0046]. The EPS is determined based on user selection information about a search result of the given query. See Barrett, e.g., paragraph [0010].

Different from claim 1, Barrett teaches displaying a query result of only a *single* query to a user for selection, and using the user's selection of the query result of the *single* query to determine the EPS. Therefore, Barrett, among other differences, does not disclose the following three limitations: (1) "merging the plurality of query results into a merged query result, the merged query result being associated with the plurality of search queries", (2) "presenting the merged query result to a user according to the first ranking sequence", and (3) "identifying a search query from the plurality of search queries associated with the merged query result, the identified search query being associated with a query result

including the first piece of information, the query result from among the plurality of query results”.

The Examiner cited Figure 2 of Barrett for teaching limitation (1) and noted that Figure 2 illustrates the merging of information A-C, and that Q1-Q4 in Figure 2 correspond to the claimed plurality of search queries. Figure 2 and the related description in Barrett teach a database table of EPS indexed by associated information (Information A-D) and queries (Queries 1-4). Indexing an EPS table by associated information and queries is different from merging a plurality of query results into a merged query result. Unlike the latter, the former does not involve merging several query results or generating a merged query result. Information A-D illustrated in Figure 2 are merely information the EPS table indexed against, and are not information in a merged query result. Therefore, none of the cited figures and corresponding descriptions discloses merging a plurality of query results into a merged query result.

The Examiner cited Figure 2 and paragraph [0010] of Barrett for teaching limitation (2), presenting the merged query result, and noted that Barrett teaches results from a query family. As argued above, Figure 2 and related description merely disclose an indexed EPS table. Paragraph [0010] discloses displaying a search result of a single search query, not a merged query result that is generated based on a plurality of query results of a plurality of search queries. Unlike what is noted by the Examiner, Barrett also does not teach a merged query result for a query family. Paragraph [0037] of Barrett discloses that when the distribution of hits does not reliably follow ranking, expected hits used to calculate a modified score can be computed by query family. Computation of expected hits by query family is not related to generating or presenting a merged query result. Therefore, none of

the cited figures and corresponding descriptions discloses presenting a merged query result to a user according to a ranking sequence.

The Examiner cited step 2 of Figures 1 and 2 of Barrett for teaching limitation (3), identifying a search query, and asserted that Information A-C are merged from a query family. Nowhere does Barrett suggest that Information A-C are merged from a query family. As argued above, all that Figure 2 shows is an indexed EPS table. Step 2 of Figure 1 merely discloses entering a user's query. Therefore, none of the cited figures and corresponding descriptions discloses identifying a search query from a plurality of search queries associated with a merged query result, the identified search query being associated with a query result including a piece of information that a user indicated an interest in.

In the section titled Response to Argument, the Examiner argued that Barrett discloses the use of a query family in paragraph [0037], and Figure 2 shows a plurality of queries (Q1-Q4) with respective search results (Information A-D). The Examiner further asserted that because Barrett teaches using a query family to retrieve results, it can be interpreted that each query in the family returns results. As Applicants argued above, paragraph [0037] merely discloses computing expected hits by query family, and Figure 2 merely shows an indexed EPS table. The fact that the EPS table is indexed by Q1-Q4 and Information A-D is unrelated to a merged query result that is generated based on a plurality of query results of a plurality of search queries. In addition, even if Barrett teaches retrieving search results for queries in a query family in paragraph [0037], a point Applicants do not concede, Barrett still does not disclose merging these query results into a merged query result.

The Examiner further asserted that because each query Q1-Q4 has a different EPS, Barrett teaches identifying a search query from a plurality of the queries. See Office Action, p. 19, first paragraph. Applicants submit that EPS is merely a score for Barrett to rank information in search results of a single query. Different queries may well share a same EPS, for the same piece of information or different information. In addition, Barrett is silent as to using EPS to identify a corresponding query. Indeed, the EPS table is indexed by query and information. Therefore, Barrett uses query and information to locate corresponding EPS and not the other way around.

The Examiner also asserted that because (1) each query Q1-Q4 produces a result (e.g., Information A), and (2) multiple queries (Q1-Q4) are associated with multiple results (Information A-D), Barrett discloses the merging of query results. Applicants reemphasize that Figure 2 and related descriptions merely disclose an EPS table indexed against multiple information and multiple queries. By inferring a merged query result from an indexed EPS table, the Examiner improperly mischaracterized the Barrett reference.

In view of the above, Barrett fails to disclose each and every limitation recited in independent claim 1. Thus, independent claim 1 is patentably distinguishable over the cited reference. Independent claims 18 and 25 and the dependent claims are allowable for at least the same reason.

In addition, dependent claims 13 and 14 recite limitations that are not disclosed in Barrett. Specifically, dependent claim 13 recites “increasing a refresh rate of a display of the merged query result to the user responsive to receiving input signals at an increasing frequency”, and dependent claim 14 recites “varying a refresh rate of a display of the merged

query result to the user based at least in part on the duration between receiving the first input signal and the second input signal”.

The Examiner cited Figure 2, paragraphs [0016-0019], [0039], and [0053] of Barrett for teaching the additional limitations of claim 13, and cited Figures 1 and 2, paragraphs [0004] and [0053] for teaching the above-cited additional limitations of claim 14. Paragraph [0004] of Barrett discloses increasing relevancy responses by utilizing previous user activities. Paragraphs [0016-0019] disclose an adaptive inflation approach to smooth the impact of unusual spikes in usage. Paragraph [0039] discloses considerations in providing timely relevant rankings. Paragraph [0053] discusses detection of periodic non-random user behaviors. None of these cited sections of Barrett is relevant to increasing/varying a refresh rate of a display of a merged query result, as recited in dependent claims 13 and 14.

In the section titled Response to Argument, the Examiner asserted that the Barrett system allows a user to select pieces of information to gauge interest, and effectively refreshes the results to display the affected result to a lower ranking, and thus varies a display at an increasing rate. Applicants submit that nowhere in Barrett does it disclose “increasing a refresh rate of a display of the merged query result” as recited in claim 13 and “varying a refresh rate of a display of the merged query result” as recited in claim 14. Even if a user selects pieces of information in a query result and causes the ranking of the query result to change, Barrett does not teach redisplaying the query result to reflect such ranking changes. Therefore, Barrett fails to disclose the above-cited claim limitations of claims 13 and 14.

Thus, dependent claims 13 and 14 are also allowable for at least these additional reasons. Dependent claims 19, 20, 27, and 28 are allowable for at least the same reasons.

Accordingly, withdrawal of the § 102 rejection is respectfully requested.

**Response to Rejection Under 35 USC 103(a)
in View of Barrett, Corston-Oliver, and Wical**

Claims 16, 17, and 21 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over Barrett in view of U.S. Patent 6,295,529 to Corston-Oliver et al. (“Corston-Oliver”); Claim 7 stands rejected under 35 USC § 103(a) as allegedly being unpatentable over Barrett in view of U.S. Patent 5,940,821 to Wical (“Wical”). These rejections are traversed.

Claims 7, 16, and 17 depend from independent claim 1, and dependent claim 21 depends from independent claim 18. As argued above, Barrett fails to disclose “merging the plurality of query results into a merged query result”, “presenting the merged query result to a user according to the first ranking sequence”, and “identifying a search query from the plurality of search queries, the search query being associated with a query result including the first piece of information, the query result from among the plurality of query results” as recited by independent claim 1. Corston-Oliver and Wical similarly fail.

Corston-Oliver describes a system for determining a relationship between a first textual input and a second textual input. The Corston-Oliver system identifies clauses in the first textual input and determines the relationship based on the identified clauses. Wical describes a knowledge base search and retrieval system that includes factual knowledge base queries and concept knowledge base queries. See Wical, Abstract. Neither reference relates to merging query results of multiple search queries, presenting a merged query result associated with a plurality of search queries, or identifying a search query from the plurality

of queries associated with the merged query result. Therefore, Corston-Oliver and Wical do not teach or suggest the claimed elements that Barrett fails to disclose.

In view of the above, Barrett, Corston-Oliver, and Wical, whether considered singly or in combination, fail to disclose each and every limitation recited in independent claim 1. Thus, independent claim 1 is patentable over Barrett, Corston-Oliver, and Wical for at least this reason. Independent claims 18 and 25, and the dependent claims are allowable for at least the same reason. Accordingly, withdrawal of the § 103 rejections is respectfully requested.

In conclusion, Applicants submit the claims on file are patentable over the cited references and request that the application be allowed. If the Examiner maintains the rejections, Applicants respectfully request that the Examiner enter this response in order to clarify and simplify the issues for appeal. The Examiner is invited to contact the undersigned by telephone in order to advance the prosecution of this case.

Respectfully Submitted,
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